

ABSTRACT OF THE DISCLOSURE

A wire grid polarizer with double metal layers for the visible spectrum. Parallel dielectric layers having a period (p) of 10~250nm and a trench between adjacent dielectric layers overlie a transparent substrate. A first metal layer having a first thickness (d1) of 30~150nm is disposed in the trench. A second metal layer having a second thickness (d2) of 30~150nm and a width (w) overlies on the top surface of each dielectric layer. The first and second metal layers are separated by a vertical distance (l) of 10~100nm. The first thickness (d1) is the same as the second thickness (d2). A ratio of the width (w) to the period (p) is 25~75%.